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United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Veterinary
Services

Prewaning Morbidity & Mortality

National Swine Survey

Prewaning mortality in pigs can be affected by numerous factors: litter size, birth weight and order, farrowing duration, sex, breed, herd size, housing and flooring, and management practices.

But a recent study by the National Animal Health Monitoring System (NAHMS) shows the frequency of illness and death decreases as pigs approach weaning. Likewise, during this time frame, clinical signs associated with sickness and death also change.

When the dust has cleared, however, preweaning mortality takes its toll with the average swine producer losing 15.0 percent of the piglets to a variety of reasons. Thus, on the average, only 85.0 percent of piglets born will reach weaning and give swine producers a return on their investment.

"Prewaning mortality and morbidity are major factors influencing sow production," stated Dr. Gary Dial, College of Veterinary Medicine at the University of Minnesota and a NAHMS Swine Advisory

Group member. "And most problems related to this can be addressed by basic husbandry skills."

According to the recent NAHMS study, nearly two-thirds of illness cases and almost three-fourths of the deaths during 1990 occurred in the first seven days of the piglets' lives (Figure 1). And the frequency of illness and death during the piglets' next seven days equaled or exceeded the total number of piglet deaths and illness from Day 15 until weaning.

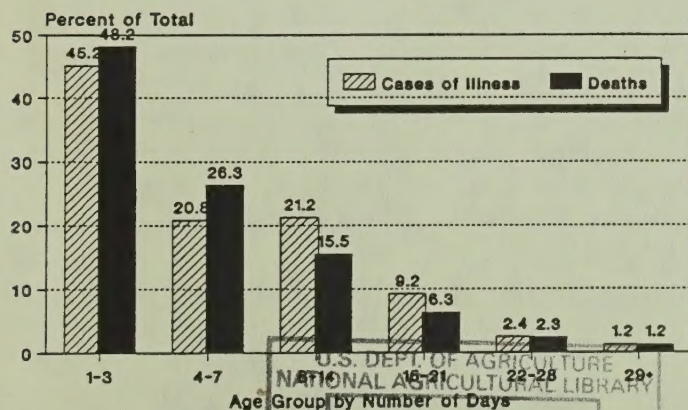
Incidences for most health events -- scours, nervous system, deformities, respiratory afflictions, other known diseases, and unknown diseases -- were highest for piglets 1 to 3 days of age. The lone exception was lameness and joint problems which peaked in 4- to 7-day-olds.

In each age group, the No. 1 health problem was scours. About 42 percent of all the cases of the scours were suffered during the first three days. As the piglets gained in age, however, scours affected them less (see Figure 2 on the next page). The percentage of scours cases dropped to 23 in piglets aged 4 to 7 days. To put that into perspective, a producer with an average inventory of 100 piglets could expect seven new scours cases each week in the youngest piglets and approximately 3.5 in piglets 4 to 7 days of age. In those 29 days and older, less than .2 new cases would be seen each week.

Other known diseases -- those producers could identify but did not fit in specified categories -- also plagued newborn piglets, where 69 percent of these cases occurred. The producer from that average herd of 100 would see 4 cases each week in 1- to 3-day-olds.

Figure 1.

Cases of Illness and Death in Piglets

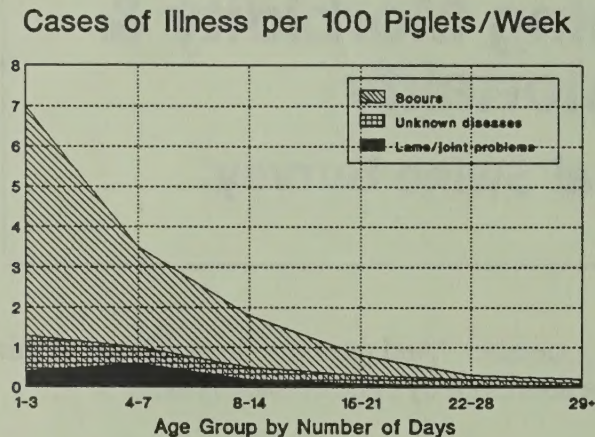


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Figure 2. Clinical signs associated with sickness and death change as pigs approach weaning.



More than 80 percent of unknown diseases occurred in the first two weeks. Unknown diseases were those the producer could not identify.

Again, the older the piglet, the less it was affected by other known diseases and unknown diseases.

The highest percent of death among all piglets were attributed to the mother. Yes, 43.2 percent of the piglets that died were laid on and almost 20 percent died from starvation. Again, newborn piglets were more likely to die from being laid on than older piglets, 9.6 per week in a group of 100. In 4- to 7-day olds, the number would drop to 2.3 per week. But piglets aged 4 to 7 days were nearly as likely to die from starvation as piglets aged 1 to 3

days old, approximately 2 out of every 100 each week.

Nevertheless, chances of surviving sow-related incidences increased significantly after a piglet's first three days of life.

The NAHMS study also revealed that piglets are more susceptible to respiratory illnesses during their first three weeks of life. However, the total number of deaths due to this and lameness/joint problems would be considerably less than the other diseases mentioned. In the example inventory of 100 piglets, the number of deaths from respiratory problems and lameness combined would be less than .2 per week at their height in 1- to 3-day olds.

The lowest number of deaths were attributed to the nervous system, less than .04 per week in newborn piglets from the example group.

As expected, the number of piglets dying from deformities was highest during the first three days of a piglet's life, at just over .2 per week out of every 100 piglets.

Scours, on the other hand, claimed its highest number of piglets when they were 4 to 7 days old. This number was almost double those dying from the scours at age 1 to 3 days and triple those at 8 to 14 days.

The National Swine Survey was a cooperative effort of State agricultural departments; universities; and the following USDA agencies: Extension Service (ES), National Agricultural Statistics Service (NASS), and Animal and Plant Health Inspection Service (APHIS). The study of swine health and productivity was conducted from December 1989 through January 1991. The objectives were to provide information on the production and health levels of the United States' swine herd, and to suggest factors that may affect preweaning morbidity and mortality.

A statistical sample of producers from 18 States was selected to provide inferences about the nation's hog population. The resulting estimates represent 95 percent of the United States' swine population.

The National Agricultural Statistics Service (NASS) selected the sample and collected retrospective data on

swine health and management practices from 1,661 farms.

Seven hundred and twelve (712) producers agreed to continue providing data to State and federal Veterinary Medical Officers (VMO's). Each farm was visited a total of four times over a 90- to 120-day period. Data collection instruments such as diary cards were implemented to collect prospective data on the farrowing to weaning stage of swine production. The producers recorded observations of clinical signs associated with illness and death in sows, gilts, and preweaning piglets.

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